

Escherichia coli O157:H7

Escherichia coli O157:H7, an enterohemorrhagic strain of *E. coli* (EHEC), is the agent for an illness of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TPP) are serious complications. Approximately 2-7% of patients with EHEC diarrhea progress to HUS, with children under 5 years of age being at greatest risk. Transmission is mainly by ingestion of contaminated food; inadequately cooked beef, raw milk or other foods contaminated with animal feces. It also may be waterborne or transmitted person to person, in families, child care centers, and custodial institutions.

Laboratory Criteria for Confirmation:

?? Isolation of *Escherichia coli* O157:H7 from a specimen, **OR**

?? Isolation of Shiga toxin-producing *E. coli* O157:NM* from a clinical specimen, **OR**

?? Isolation of Shiga toxin-producing *E. coli*, (serogroup, non-O157, or not serogrouped).

*NM—Designation for stains of *E. coli* O157:H7 that have lost the flagellar “H” antigen and are nonmotile.

Case Classification

Confirmed: A case that is laboratory confirmed.

Probable:

?? A case with isolation of *E. coli* O157 from a clinical specimen, pending confirmation of H7 or Shiga toxin, **OR**

?? A clinically compatible case that is epidemiologically linked to a confirmed or probable case.

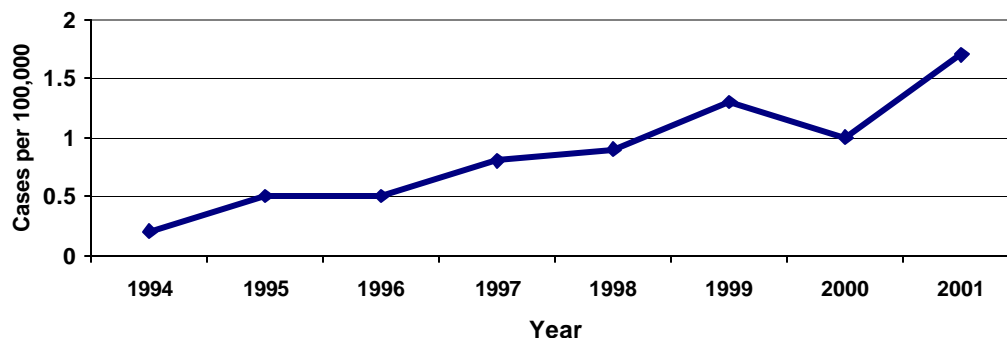
Suspected: A case of postdiarrheal HUS or TTP.

Epidemiology

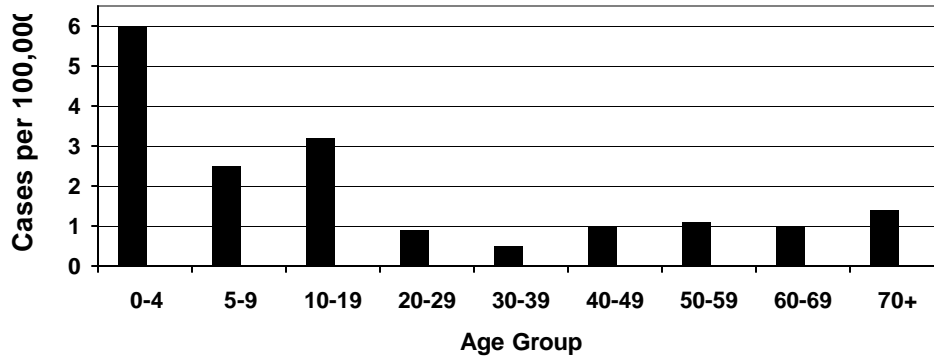
Kentucky 2001	Rate per 100,000	U. S. Rate (2000) per 100,000
Cases 68	1.7	1.74

Cases by Gender	Rate per 100,000
Female 35	1.7
Male 33	1.7

***E. coli* O157:H7 Incidence in Kentucky, 1994-2001**

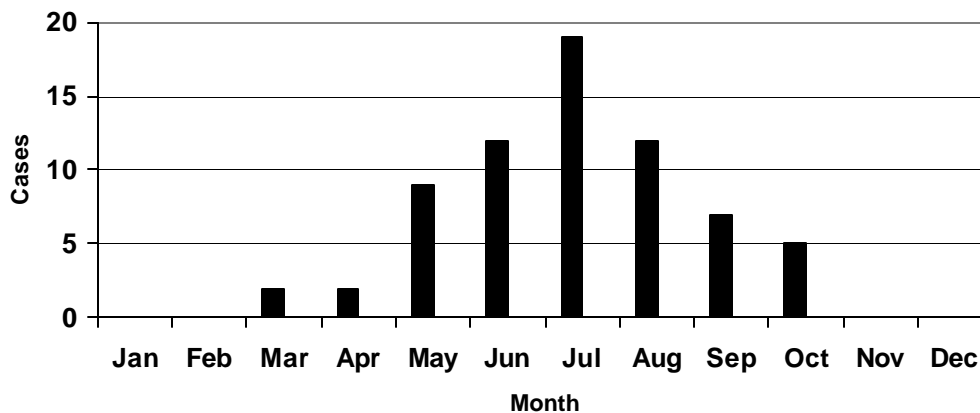


***E. coli* O157:H7 Age-Specific Incidence
Kentucky, 2001**



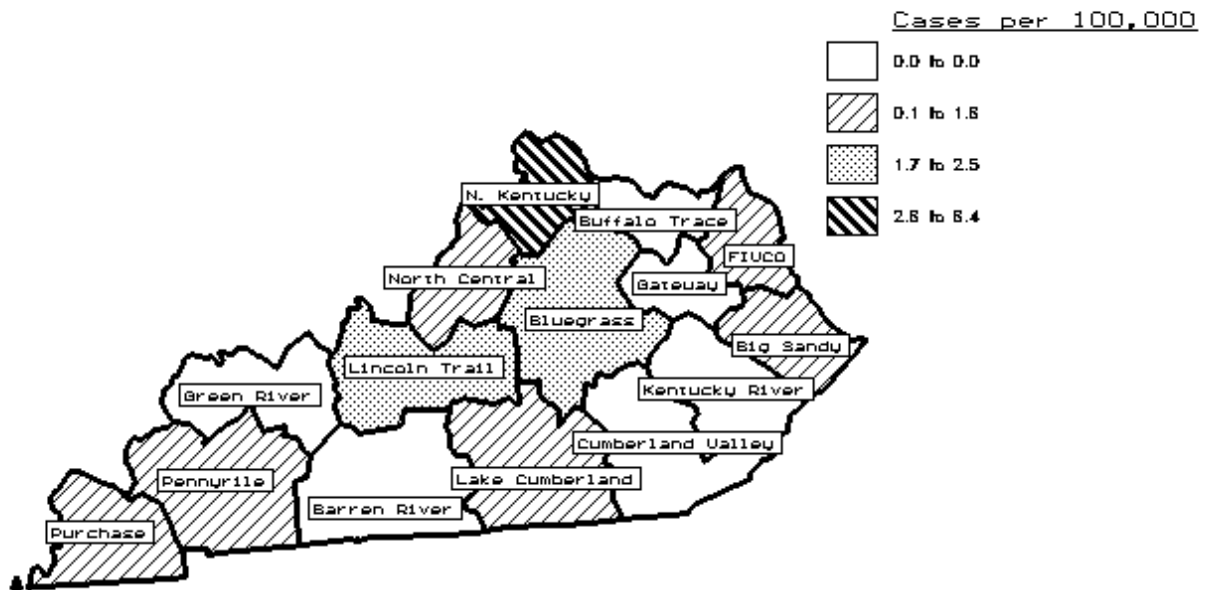
The highest rates were in the 0-4 and 10-19 year age groups, 6.0 and 3.2 cases per 100,000 respectively. The 5-9 year age group followed with a rate of 2.5 cases per 100,000. The rates in all age groups except for 60-69 and 5-9 increased over 2000, some age groups significantly.

***E. coli* O157:H7 Reported Cases by Month of Onset, Kentucky, 2001**



Eighty-seven per cent of the cases (59) occurred in May through September, peaking in July (19 cases).

***E. coli* O157:H7 Annual Incidence by District, Kentucky, 2001**



The Northern Kentucky District had the highest reported incidence in 2001, 6.4 cases per 100,000 persons. Twenty-five cases were reported from the Northern Kentucky District. The highest age group rate in the Northern Kentucky District was the 0-4 year age with a rate of 21 cases per 100,000, followed by the 60-69 year group at 11.5 and the 70+ year group at 10.0 cases per 100,000 respectively. Fourteen of these cases occurred in June and July, but none proved to be part of an outbreak.

District	Rate per 100,000
Purchase	1.6
Pennyrile	0.9
Lincoln Trail	2.1
North Central	1.2
Northern Kentucky	6.4
Fivco	1.5
Big Sandy	0.6
Lake Cumberland	1.6
Bluegrass	2.5